

Injury among Residents of Graham and Greenlee Counties, Arizona 2005

Injury is a public health problem that impacts the lives of thousands of Arizona residents each year. Chronic pain, disability, large medical bills, changes in quality of life, and premature death are just some of the possible effects of injuries. These effects can extend beyond injured individuals to their families and communities. With non-fatal injuries, family members are often required to provide care, which can result in time away from work, loss of income, and increases in stress within the family. At the community level, the financial burden of injuries can include medical expenses, rehabilitation, lost wages, and lost productivity. Most injuries are predictable and preventable. Understanding the causes of injury is an important step toward reducing injury-related morbidity and mortality.

The following report identifies the leading causes of injury among residents of Graham and Greenlee Counties in 2005. This report is intended to be used as a guide for strategy development, program implementation, and evaluation. The Arizona Department of Health Services Injury Prevention Program operates under the vision of reducing injuries in Arizona using integrated surveillance and evidence-based interventions. This report was generated to increase awareness of county-specific injury issues and to facilitate opportunities for effective injury prevention activities.

**Figure 1. Injury Pyramid for Residents of Graham and Greenlee Counties,
Arizona 2005**

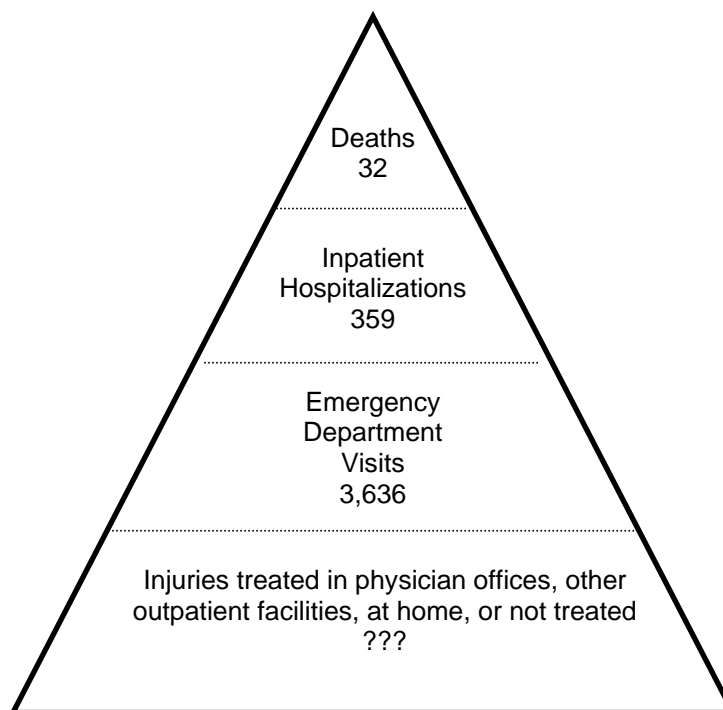


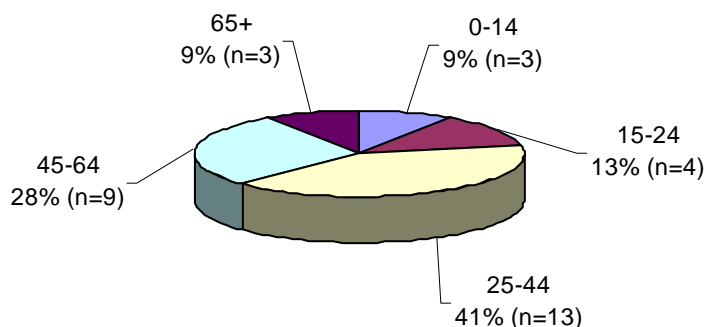
Figure 1 shows an injury pyramid for residents of Graham and Greenlee Counties during 2005. This pyramid shows that deaths represent the smallest proportion of injuries. The proportions increase towards the foundation of the pyramid, which is

comprised of hospital discharges, emergency department visits, and self care. Although injuries that do not require medical treatment may be the most numerous, no existing datasets capture these types of injuries.

Deaths

In 2005, there were 32 injury-related deaths in Graham and Greenlee Counties. Most of these deaths were among males (78 percent, n=25), and females accounted for 22 percent (n=7). The largest percentage of deaths was among individuals ages 25 to 44 years (41 percent, n=13). Age distributions are shown in Figure 2.

**Figure 2. Injury-Related Deaths by Age Group,
Graham and Greenlee Counties,
Arizona 2005 (n=32)**

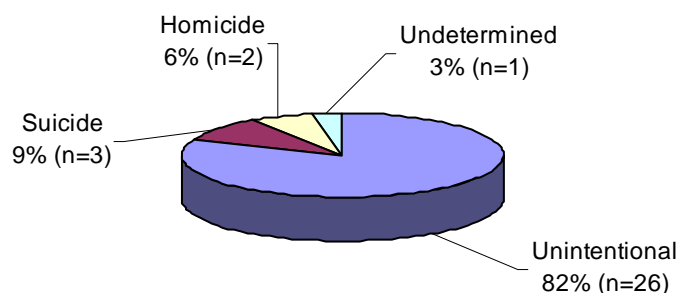


Non-Hispanic Whites accounted for the majority of injury-related deaths in Graham and Greenlee Counties (66 percent, n=21), followed by Hispanics (25 percent, n=8). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

For the state of Arizona, unintentional injury is the leading cause of death among all residents ages 1 to 44 years. However, for residents of Graham and Greenlee Counties, unintentional injury is the leading cause of death for individuals ages 20 to 44 years.¹ Eighty-two percent of injury-related deaths in Graham and Greenlee Counties were due to unintentional injuries (n=26); 9 percent were suicides (n=3); 6 percent were homicides (n=2); and 3 percent were of undetermined intent (n=1). Figure 3 shows injury-related deaths by intent.

¹ Arizona Health Status and Vital Statistics 2005.

**Figure 3. Injury-Related Deaths by Intent,
Graham and Greenlee Counties, Arizona 2005
(n=32)**



Injury-Related Deaths in Graham and Greenlee Counties Compared to Other Arizona Counties

Table 1 shows the intent of injury-related deaths for residents of Graham and Greenlee Counties compared to residents of the rest of Arizona. The leading intent of injury-related deaths was unintentional for Graham and Greenlee Counties and for the remaining Arizona counties, accounting for the majority of injury-related deaths. Graham and Greenlee Counties had a smaller percentage of suicides (9 percent) than the remainder of Arizona (20 percent). There was also a smaller percentage of homicides in Graham and Greenlee Counties (6 percent) compared to the remaining counties (11 percent).

Table 1. Intent of Injury-Related Deaths, Graham and Greenlee County Compared to Other Arizona Counties, 2005			
Graham and Greenlee Counties (n=32)		Arizona, excluding Graham and Greenlee Counties (n=4,558)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	82	Unintentional	65
Suicide	9	Suicide	20
Homicide	6	Homicide	11
Undetermined	3	Undetermined	4

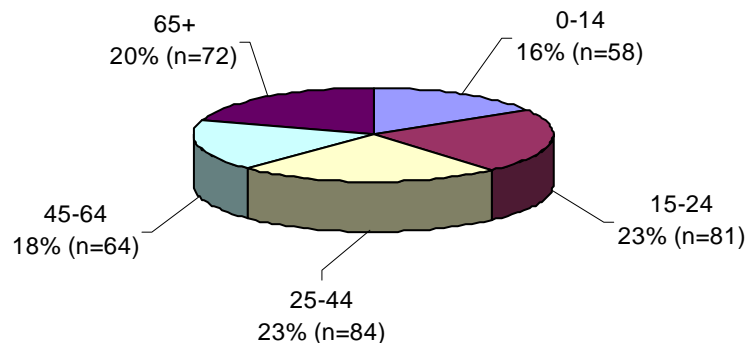
The most common cause of unintentional injury-related deaths in Graham and Greenlee Counties was motor vehicle traffic crashes (38 percent, n=10). The causes of unintentional injury-related deaths during 2005 in Graham and Greenlee Counties are shown in Table 2.

Table 2. Causes of Unintentional Injury-Related Deaths among Residents of Graham and Greenlee Counties, Arizona 2005		
Cause	Number	Percent
Motor vehicle traffic	10	38%
Other/unspecified	7	27%
Nature/environment	3	11%
Firearm	2	8%
Suffocation	2	8%
Fall	2	8%
Total	26	100%

Non-Fatal Inpatient Hospitalizations

In 2005, there were 359 non-fatal inpatient hospitalizations due to injury among residents of Graham and Greenlee Counties. Sixty-two percent were male (n=222) and 38 percent were female (n=137). Two age groups, 15 to 24 years (n=81) and 25 to 44 years (n=84), each accounted for 23 percent of the hospitalizations. Figure 4 shows injury-related inpatient hospitalizations by age group among residents of Graham and Greenlee Counties.

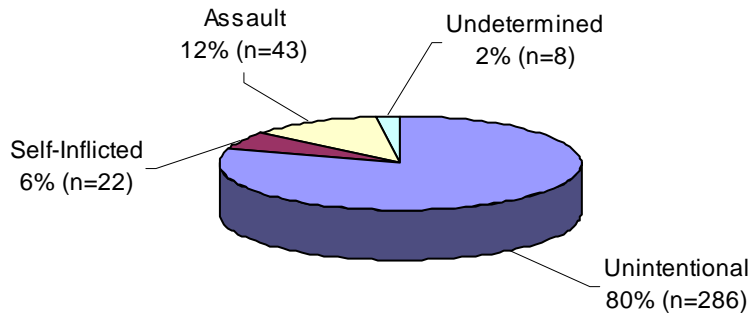
**Figure 4. Injury-Related Inpatient Hospitalizations
by Age Group, Graham and Greenlee Counties,
Arizona 2005 (n=359)**



There were 184 injury-related hospitalizations among White, Non-Hispanic residents of Graham and Greenlee Counties (51 percent). The second highest number was among American Indians (29 percent, n=103). Rates by racial/ethnic groups could not be calculated due to small sample sizes.

Eighty percent of the inpatient hospitalizations were due to unintentional injuries (n=286); 12 percent were due to assaults (n=43); 6 percent were due to self-inflicted injuries (n=22); and 2 percent were of undetermined intent (n=8). Figure 5 shows injury-related hospitalizations by intent.

**Figure 5. Injury-Related Inpatient Hospitalizations
by Intent, Graham and Greenlee Counties,
Arizona 2005 (n=359)**



Injury-Related Hospitalizations in Graham and Greenlee Counties Compared to Other Arizona Counties

Table 3 shows the intent of injury-related hospitalizations for residents of Graham and Greenlee Counties compared to residents of the rest of Arizona. The leading intent of injury-related hospitalizations was unintentional for Graham and Greenlee Counties and for the remaining Arizona counties, accounting for the majority of injury-related hospitalizations. Graham and Greenlee Counties had a larger percentage of hospitalizations due to assaults (12 percent) than the remainder of Arizona (6 percent).

Table 3. Intent of Injury-Related Inpatient Hospitalizations, Graham and Greenlee Counties Compared to Other Arizona Counties, 2005			
Graham and Greenlee County (n=359)		Arizona, excluding Graham and Greenlee Counties (n=34,665)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	80	Unintentional	84
Self-Inflicted	6	Self-Inflicted	8
Assault	12	Assault	6
Undetermined	2	Undetermined	2

The most common cause of unintentional inpatient hospitalizations in Graham and Greenlee Counties was falls (35 percent, n=101). Table 4 shows the causes of unintentional injury-related hospitalizations among residents of Graham and Greenlee Counties.

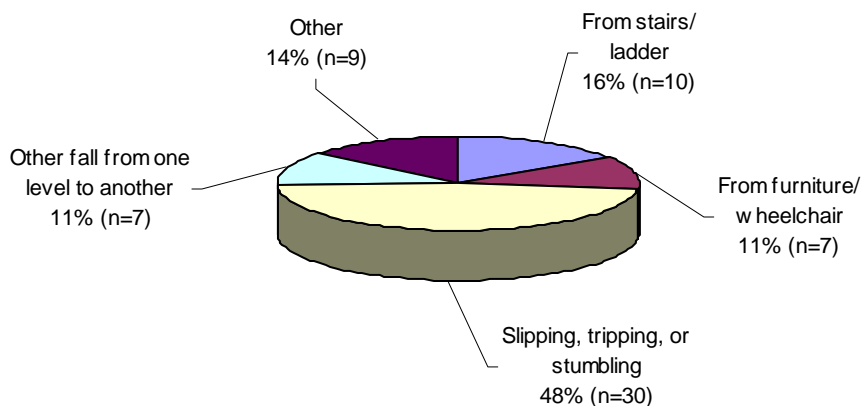
Table 4. Causes of Unintentional Injury-Related Inpatient Hospitalizations among Residents of Graham and Greenlee Counties, Arizona 2005		
Cause	Number	Percent
Fall	101	35%
Other/unspecified	65	23%
Motor vehicle traffic	51	18%
Motor vehicle non-traffic	24	8%
Nature/environment	19	7%
Fire/hot object	15	5%
Poisoning	11	4%
Total	286	100%

Falls

Males accounted for 48 percent of unintentional fall-related hospitalizations (n=48) and females accounted for 52 percent (n=53). Twelve percent of fall-related hospitalizations were among children 14 years and under (n=12); 3 percent were among individuals ages 15 to 24 years (n=3); 26 percent were among individuals ages 25 to 64 years (n=26); and 59 percent were among individuals 65 years and older (n=60).

For 38 percent of unintentional fall-related inpatient hospitalizations, information regarding contributing event was not specified in the hospital discharge database (n=38). Among the hospitalizations for which contributing event was specified, 48 percent were due to slipping, tripping, or stumbling (n=30). Figure 6 shows unintentional fall-related hospitalizations by contributing event.

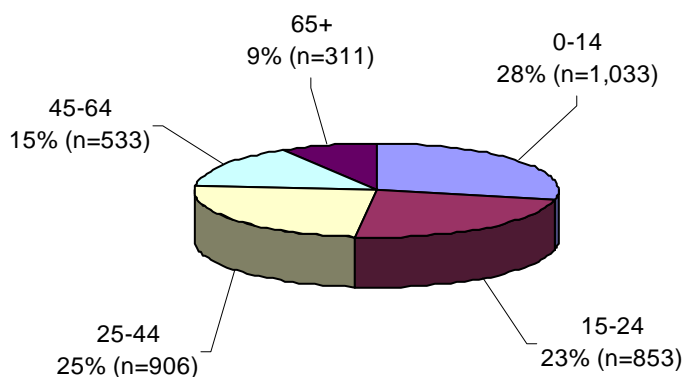
Figure 6. Inpatient Hospitalizations due to Unintentional Falls by Contributing Event, Graham and Greenlee Counties, Arizona 2005 (n=63)



Non-Fatal Emergency Department Visits

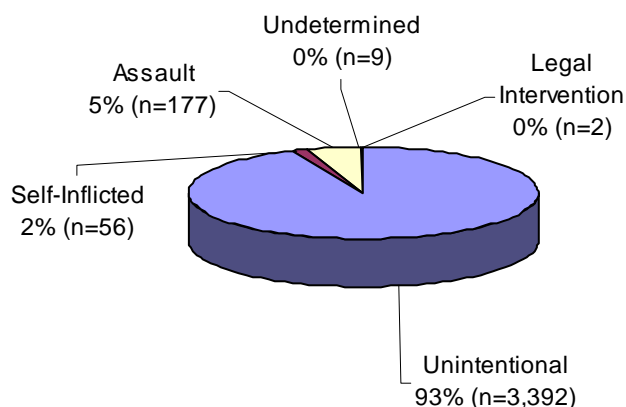
In 2005, there were 3,636 injury-related emergency department visits among residents of Graham and Greenlee Counties. Males accounted for 57 percent of these visits (n=2,063) and females accounted for 43 percent (n=1,572). One individual was of unknown sex. The largest percentage of visits was among children 14 years and under (28 percent, n=1,033). Figure 7 shows injury-related emergency department visits by age group.

Figure 7. Injury-Related Emergency Department Visits by Age Group, Graham and Greenlee Counties, Arizona 2005 (n=3,636)



Nearly all of the emergency department visits were due to unintentional injuries (93 percent, n=3,392); 5 percent were due to assaults (n=177); and 2 percent were due to self-inflicted injuries (n=56). Two emergency department visits were due to legal intervention, and nine injury-related visits were of undetermined intent. Figure 8 shows emergency department visits by intent.

Figure 8. Injury-Related Emergency Department Visits by Intent, Graham and Greenlee Counties, Arizona 2005 (n=3,636)



Injury-Related Emergency Department Visits in Graham and Greenlee Counties Compared to Other Arizona Counties

Table 5 shows the intent of injury-related emergency department visits for residents of Graham and Greenlee Counties compared to residents of the rest of Arizona. The leading intent of injury-related visits was unintentional for Graham and Greenlee Counties and for the remaining Arizona counties, accounting for the majority of injury-related visits. Overall, Graham and Greenlee Counties and the rest of Arizona had similar percentages of visits due to self-inflicted injuries and assaults.

Table 5. Intent of Injury-Related Emergency Department Visits, Graham and Greenlee Counties Compared to Other Arizona Counties, 2005			
Graham and Greenlee County (n=3,636)		Arizona, excluding Graham and Greenlee Counties (n=375,035)	
<u>Intent</u>	<u>Percent of Total</u>	<u>Intent</u>	<u>Percent of Total</u>
Unintentional	93	Unintentional	94
Self-Inflicted	2	Self-Inflicted	1
Assault	5	Assault	4
Undetermined	0	Undetermined	1

The most common cause of unintentional injury-related emergency department visits was falls (27 percent, n=925). Table 6 shows the causes of unintentional injury-related emergency department visits for residents of Graham and Greenlee Counties in 2005.

Table 6. Causes of Unintentional Injury-Related Emergency Department Visits among Residents of Graham and Greenlee Counties, Arizona 2005		
Cause	Number	Percent
Fall	925	27%
Other/unspecified	558	17%
Struck by/against	494	14%
Overexertion	350	10%
Cut/pierce	337	10%
Motor vehicle traffic	280	8%
Nature/environment	235	7%
Motor vehicle non-traffic	92	3%
Fire/hot object	68	2%
Poisoning	53	2%
Total	3,392	100%

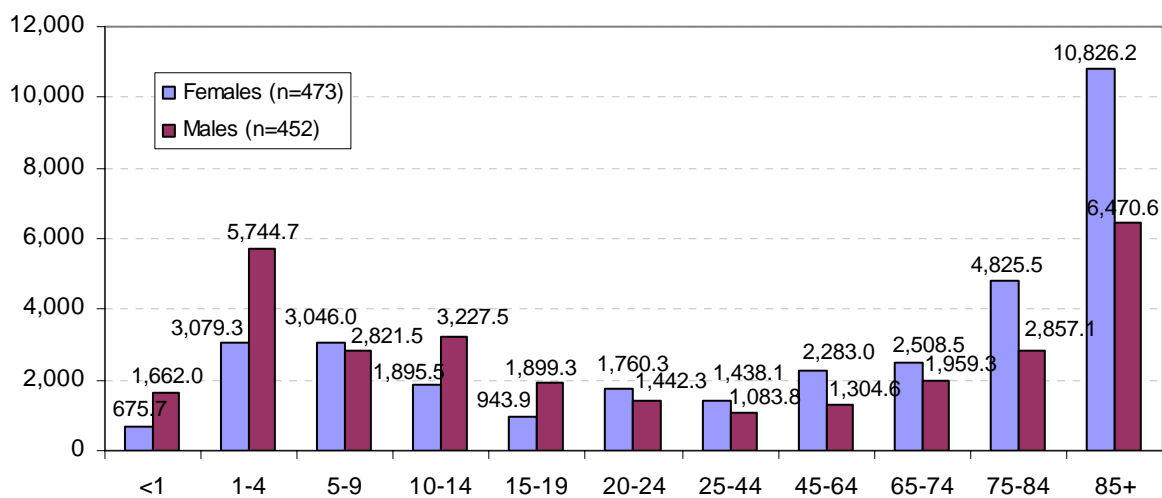
Falls

There were 925 emergency department visits due to unintentional falls. Males accounted for 49 percent of these visits (n=452) and females accounted for 51 percent (n=473). Children 14 years and under had the highest percentage of unintentional fall-related emergency department visits (36 percent, n=333). Twelve percent of visits were among individuals ages 15 to 24 years (n=109); 33 percent were among individuals

ages 25 to 64 years (n=303); and 19 percent were among individuals 65 years and older (n=180).

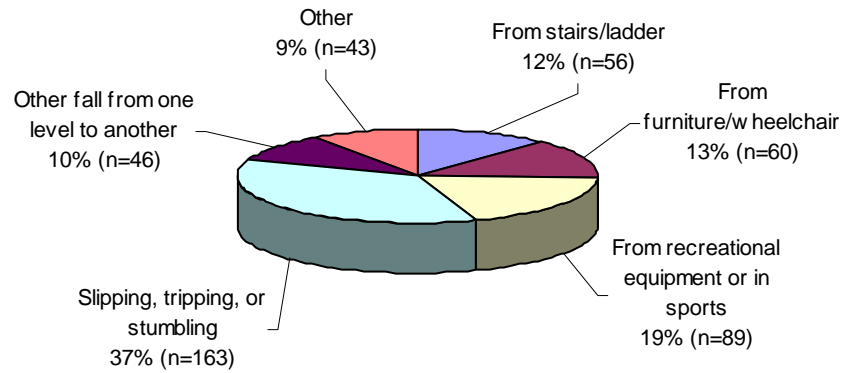
The highest rates of unintentional fall-related emergency department visits were among older adults. Females 85 years and older had a rate of 10,826.2 fall-related emergency department visits per 100,000 residents. There was also a high rate among males ages 1 to 4 years (5,744.7 per 100,000 residents). Figure 9 shows emergency department visit rates of unintentional falls by age group and gender.

Figure 9. Unintentional Fall-Related Emergency Department Visit Rates per 100,000, Graham and Greenlee Counties, Arizona 2005 (n=925)



For 51 percent of the unintentional fall-related emergency department visits, information regarding contributing event was not specified in the emergency department database (n=432). Among the emergency department visits for which contributing event was specified, 37 percent of unintentional falls were due to slipping, tripping, or stumbling (n=163). Figure 10 shows emergency department visits due to unintentional falls by contributing event.

Figure 10. Emergency Department Visits due to Unintentional Falls by Contributing Event, Graham and Greenlee Counties, Arizona 2005 (n=457)



Summary

In 2005, there were 32 injury-related deaths in Graham and Greenlee Counties, and the largest percentage of deaths was among individuals ages 25 to 44 years (41 percent, n=13). The majority of these deaths were due to unintentional injuries (82 percent, n=26). The most common cause of unintentional injury deaths was motor vehicle traffic crashes (38 percent, n=10). For residents of Graham and Greenlee Counties, unintentional injury is the leading cause of death for individuals ages 20 to 44 years.¹ Nine percent of injury-related deaths in Graham and Greenlee Counties were suicides (n=3); 6 percent were homicides (n=2); and 3 percent were of undetermined intent (n=1).

There were 359 non-fatal inpatient hospitalizations due to injury among residents of Graham and Greenlee Counties. Two different age groups each accounted for 23 percent of the injury-related hospitalizations: ages 15 to 24 years (n=81) and ages 25 to 44 years (n=84). Eighty percent of the hospitalizations were due to unintentional injuries (n=286); 12 percent were assaults (n=43); 6 percent were due to self-inflicted injuries (n=22); and 2 percent were of undetermined intent (n=8). The most common cause of unintentional injury-related hospitalizations was falls (35 percent, n=101).

There were 3,636 injury-related non-fatal emergency department visits among residents of Graham and Greenlee Counties in 2005. The largest percentage of visits was among children 14 years and under (28 percent, n=1,033). Ninety-three percent of the emergency department visits were due to unintentional injuries (n=3,392); 5 percent were due to assaults (n=177); and 2 percent were due to self-inflicted injuries (n=56). There were two visits due to legal intervention, and nine visits were of undetermined intent. The most common cause of unintentional injury-related emergency department visits was falls (27 percent, n=925).

Source for deaths: 2005 Death Certificate Database

Source for hospitalizations: 2005 Inpatient Hospital Discharge Database

Source for emergency department visits: 2005 Outpatient Emergency Department Database

Arizona Counties with Population, 2005

